tried and tested in the light of a personal experience well-nigh omniscient so far as regards the material in question.

Dr. Finkelstein has done his work excellently, and his translation reads well. He has managed to convey something of the clarity and polish of style of the original. The book is well illustrated with *clichés* from the French edition, and is admirably printed. It is, however, worthy of a better index.

(3) The printing of the English translation by Dr. Kremers of the second volume of the second edition of the standard work, by Gildemeister and Fr. Hoffmann, on the volatile oils was completed in 1916, but its publication was delayed until last year. The treatise, which is the most authoritative work on the so-called essential oils, is produced under the auspices of the well-known firm of Schimmel and Co., of Miltitz, near Leipzig, who are among the leading manufacturers of these products, and have contributed largely to our knowledge of their chemistry by the systematic investigations which they have caused to be made. In fact, a very considerable amount of the analytical and physical data concerning this particular class of substances emanates from their laboratories.

The number of the essential oils already known, and more or less well investigated, is legion. The volume before us describes the chemical and physical characteristics of upwards of 400, and includes only the oils up to and embracing those of the Zygophyllaceæ and of part of the Rutaceæ of Engler's "Syllabus der Pflanzenfamilien." Another volume will be required to deal with the rest. Many of these substances are obtainable in very small quantity, and have little or no commercial value. Others are important articles of trade and produced in large quantities. Whether they are made in large or in small amounts, their regular investigation is part of the routine work of the Schimmel laboratories, and the results are published periodically in their well-known reports; ultimately they find their way into the successive editions of this treatise. Of course, the book also takes note of other published work. Indeed, its bibliography is an important and valuable feature of the work. Practically everything that is known at the time of compilation or revision on the subject of volatile oils is probably to be found in it.

The book is suitably illustrated with reproductions from photographs and drawings of apparatus and distilling plant, and it is also provided with excellent maps of the areas of production of some of the more important oils. Its bibliography and index are remarkably complete. As a work of reference it leaves little to be desired.

(4) Dr. F. A. Mason has put the colour industry of this country under an obligation to him by his translation of Prof. Fierz-David's well-known work on "The Fundamental Processes of Dye Chemistry." It deals with the general operations—sulphonations, nitrations and reductions, chlorinations, oxidations, condensations, azotisations, and couplings—incidental to the manufacture of synthetic colouring matters, and describes the intermediates employed and the special apparatus needed. These operations should be carried out on a semi-manufacturing scale, and the apparatus involved should be similar in character to that employed in actual practice. The several processes are described in full, and illustrated by drawings and plans, such as an engineer could work from, of the plant to be used.

Valuable features of the book are the notes on works technique and on works management, which are based on an extensive practical experience. It will surprise some people to be told that, as compared with other industries, the value of the entire world production of dyes is very slight, its worth, according to Prof. Fierz-David, being in 1913 20,000,000*l.*—not more than a tenth part of the value of the wool crop, or a fifth of the cotton crop, or a third of the rubber crop. The chance, therefore, that synthetic dyes, made in Germany, can furnish any considerable fraction of the amount demanded by the Allies by way of "reparations" is not so great as is generally supposed. At the same time that is no reason why the manufacture, which is a staple industry in Germany, should not bear its proper share of the penalty which Germany has incurred by her unrighteous acts.

Institution and Behaviour in Fijian Society.

Fijian Society; or, The Sociology and Psychology of the Fijians. By the Rev. W. Deane. Pp. xv+255. (London: Macmillan and Co., Ltd., 1921.) 16*s.* net.

MR. DEANE'S work deals, among other topics, with the child-life, games, religion, ancestor-cult, sacred stones, symbolism, moral character, etiquette, fishing, food-prohibitions, and cannibalism of the Fijians. He does not attempt to give more than a sketch of some aspects of Fijian life, and some value is taken from his work by his habit of quoting other authorities instead of telling his own story. The authoritative work on Fiji has yet to be written,

©1921 Nature Publishing Group

and ethnologists are eagerly awaiting some such work from the pen of Mr. A. M. Hocart, whose preliminary sketches give promise of so much to come.

The work under notice is, in its way, excellent. In his treatment of psychology the author does not follow the usual practice of accounting for the beliefs and practices of uncivilised folk by means of some extemporised psychological explanation. On the contrary, his work contains some of the soundest social psychology that it has been our good fortune to read for many a day. The author is keenly aware of the interrelationship of social institution and behaviour. For instance, he, along with the Rev. T. Williams, fails to detect any element of wonder in Fijian religion, but finds plenty of fear. He does not, however, claim that this fear has been aroused in the Fijian by his experience of natural phenomena; on the contrary, "the answer is to be found in his history and past social life." The Fijian race has had a warlike past, and the people have been at the mercy of cruel, warlike chiefs. "He knew what invasion meant, and he was a victim to the war-terror by night and day. . . . Fear was 'bred in his bone.' It is not wonderful, therefore, that fear came out in his religious life . . . at the present time, fear is inseparable from the Fijian nature, and . . . this fear is the result of his history and past social environment."

Again, in speaking of the moral character of the Fijian, Mr. Deane says: "Many people are led by erroneous or narrow conceptions of social life in general to forget that the Fijian's past is crystallised in his present social surroundings, and they proceed forthwith to pronounce judgment upon him as if he had had the same history as a European. The diagnoses of such people are, therefore, often unjust, caustic, and unscientific. For they take single threads of his character, and judge therefrom the warp and woof of all." In some capital chapters on the influence of social organisation on behaviour, the author sums up his method of inquiry in terms that reveal his attitude: "So far we have examined the Fijian character as *expressed* in certain religious beliefs, social customs, and ceremonial symbols. We shall now study it more directly as the *outcome* of particular social institutions." He proceeds forthwith to give an analysis of the effects of communism upon human behaviour that should be read by some of our individualists, as well as by the communists, for both will find there something to learn that will not entirely please them. Fijian communism has its good, as well as its bad, side.

It is interesting to note that the great increase of warfare and cannibalism in Fiji was due to the introduction of firearms. Europeans have much to answer for in the matter of stirring up strife in various parts of the earth. "The ancient legends describe a peaceful immigration of a few half-shipwrecked and forlorn people. . . . It is not till long after that any serious war is even hinted at"—a state of things that is apparently typical of the early history of the Pacific.

Altogether a readable and eminently human book, with much reasoning on human behaviour far in advance of that usually found in ethnological literature.

W. J. PERRY.

Laboratory Designs.

Laboratories: Their Planning and Fittings. By A. E. Munby. With a historical introduction by Sir Arthur E. Shipley. Pp. xix+220. (London: G. Bell and Sons, Ltd., 1921.) 25*s*. net.

AN up-to-date compendium of experience in all that pertains to laboratory design and fittings is provided by this volume, which is well illustrated by plans and sketches of many of the latest buildings for scientific work in schools and colleges. It is accompanied by a criticism of different types, while useful suggestions will be found for making the best use of laboratories run on the more orthodox system of teaching science.

A perusal of the book will well repay those responsible for the extension of science teaching in our educational establishments, and will help to prevent those costly mistakes which, through insufficient knowledge of what has been done elsewhere, have in the past so often characterised the building of scientific laboratories. The publishers, as well as the author, are to be congratulated on the publication of a really useful book in handy size, well bound, and with excellent letterpress.

The first chapter, "The Scope and Inception of Building Schemes," deals with the factors which affect the ultimate design of the building. It is a suggestive presentation of the subject and a comprehensive analysis of the problems that must be considered before any plans can be set out.

Mr. Munby in no way attempts to define the actual requirements of any particular type of school or course of work. His book is intended rather to assist the designer in obtaining the best and most efficient equipment within the limit prescribed by funds available or methods of teaching. Naturally, this has led him to discuss details and designs for the most advanced courses in various branches of science with all the elabora-

©1921 Nature Publishing Group